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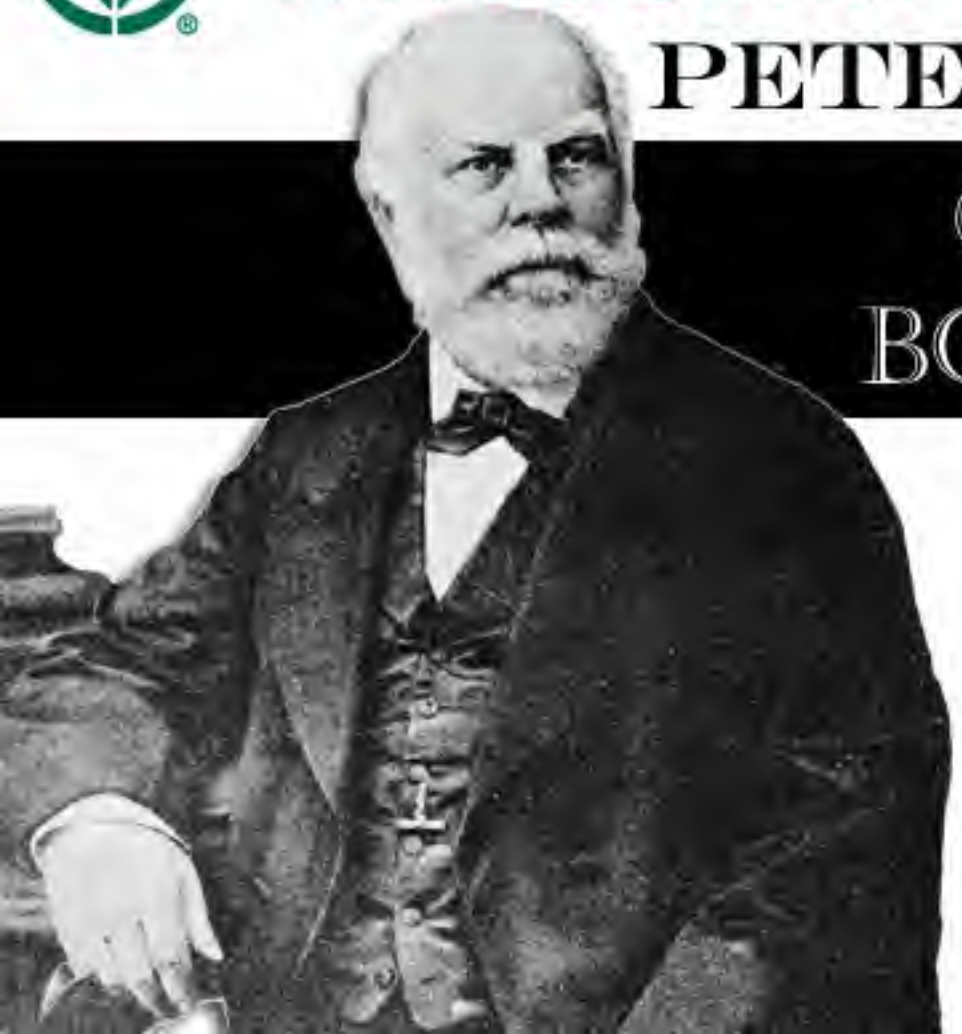
George Engelmann Botanical Notebooks



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tion. To the bar is affixed a small telescope, the object-glass near the bottom, the eye-lens at the top of the bar. Below the object-glass a frame is fixed to the bar, carrying a plane mirror swinging on a horizontal axis and provided with a clamp for fixing the mirror at any desired inclination. Below this is a metal bob. The whole instrument thus forms a pendulum, which is suspended inside a large tube, at the base of which are approximate leveling screws. A smaller tube at the top carries a dark-glass directly over the eye-lens of the enclosed telescope, without touching it. The cut shows the general external appearance of the instrument. The mirror, with the milled heads by which it is revolved and clamped, is seen through the apertures near the bottom of the enclosing tube.

From the above description of the construction, it is evident that, if the instrument is turned so that the mirror

the sextant—the use of which, with the artificial horizon, requires considerable skill, and involves much trouble and inconvenience — as well as over the small, portable Watchmaker's Transit, which requires careful mounting and adjustment, and even more skill and trouble than the sextant, in practical use. The instruments which I have so far had constructed are very compact and are portable in the coat pocket. They have object-glasses of 6 inches focus, the magnifying power being 7 or 8 diameters. The whole instrument is about $1\frac{3}{4}$ inches in diameter, and stands about 9 inches high. With instruments of this size and construction, the probable error of a single determination of the clock error with one instrument may be definitely stated to be within one second of time. Indeed, the actual results of an extended series of experiments with several instruments shows the probable error of a determination with

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and apply it, with the proper [illegible]
The result will be the observed watch time of apparent noon, and, if the watch were exactly right, would agree with the *mean time of apparent noon* for that date in *Table C*. Hence, the difference, if any, will show how much the watch is slow or fast.

EXAMPLE: Observations at Boston, July 18, 1880, A.M. and P.M.

	July 18, A.M.			July 18, P.M.						
	h.	m.	s.	h.	m.	s.				
Sun's 1st limb,	9	39	48.4	2	25	2.8				
Sun's 2d limb,		43	1.0		28	13.0				
Means,	9	41	24.7	2	26	37.9	Mean,	12	4	1.3
Interval between obs., 4h. 45m.							Correction fr. *Table A*,			+ 4.1
								12	4	5.4
							Fr. *Table C*, for July 18,	12	6	0.3
							Watch *slow*, July 18, noon,		1	54.9

* This is a correction, necessary on account of the change in the sun's declination between the morning and afternoon observations.

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0 1 2 3 4 5 6 7 8 9 10 cm

Ephedra vulgaris
helvetica

June 28 1882

Sitten, Wallis, P. Hourlet

×4

4 or sometimes
a 5th pair of
bracts

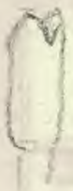
2 seeds

innermost
bracts
united 1/4

×4

♀ flowers
of another inflor.
one abortive

mature
nut



leaves

♂ catkins

♂ all males fertile
perigyn sometimes exsel
quarter whether the male
belongs here

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June 28 1882

Ephedra vulgaris
distachya

Montpellier, Provence.

amenta ♂ masculo pauciflora
subterna pedunculata
pariter opposita
s. verti-illata

Lessina, Asdrubal

amenta ♂ sessilia opposita
vel verti-illata
5–6 antheris

sessili bracteis
parvulis,
perigonio exsert.
stipite short 6 antheris
5–7

Allai

amenta ♂ sessilia, bracteis
obtusis parvulis
5–8 antheris ± stipite exserta
breviter stipitulatis

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431.	***Sir John Lawrence.** Deep pansy blue bells, magnificent and large truss	„	8
430.	**Snowball.** Large bells, of very fine shape, snow white; a beautiful variety (L)	2	6
429.	**Solfatare.** A very distinguished variety; red and orange bells	„	10
418.	**Sonora.** Tender yellow, large truss, admirable (L)	„	10
	***Theba**, see *Alba superbissima.*		
458.	**Thémistocle.** Pure white, fine spike, delightful perfume	„	5
457.	**Tollens.** *A novelty.* Beautiful purple bells, superb spike	1	3
451.	**Triomphe de Blandine.** Pale flesh with rose stripe, large truss	„	4
453.	***Tubiflorus.** Bright carnation, large bells and spike (L)	„	4
459.	***Uncle Tom.** Shiny black, very fine bells (L)	„	5
463.	***Veronica.** Very bright red; an early variety (S)	„	5
470.	**Vesta.** Pure white bells, large handsome truss	„	5
464.	**Victor Driessens.** Very large and well-garnished spike of dark blue bells	1	8
465.	**Victor Hugo.** Very fine yellow bells, medium-sized truss (S)	„	6
466.	**Voltaire.** *White*, delicately shaded with rose, large bells (L)	„	5
472.	***Von Schiller.** Deep *red* bells, large and magnificent spike	„	10
474.	**Von Schiller.** Very pretty spike, large, dark blackish *blue* bells	4	„
482.	***Willem I.** Shiny black on rich violet ground, pretty truss	„	5
483.	**Willem III.** Light yellow bells	„	8

The collection of single Hyacinths is composed of more than 250 choice varieties, which, from personal experience, have been proved to be the most worthy of culture; it has, however, not been thought necessary to extend the preceding list in which already about 200 sorts are enumerated. The following assortments have been formed for the convenience of those who are desirous of avoiding the trouble of making their own selection. For this purpose, the finest varieties have been selected from the whole collection and great care has been taken in selecting, for each assortment, bulbs producing flowers of colours and shades as dissimilar as possible.

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ASSORTMENT [illegible]

		per 50.	11	3
		per 25.	6	„
		per 12.	3	3
—	G. Blue	*per* 100.	20	„
		per 50.	10	6
		per 25.	5	8
		per 12.	3	3
—	H. Yellow	*per* 100.	21	8
		per 50.	11	3
		per 25.	6	„
		per 12.	3	3
—	I. Red and Rose	*per* 100.	21	„
		per 50.	10	10
		per 25.	5	8
		per 12.	3	3
—	J. All colours and shades mixed	*per* 100.	20	„
		per 50.	10	6
		per 25.	5	8
		per 12.	3	3

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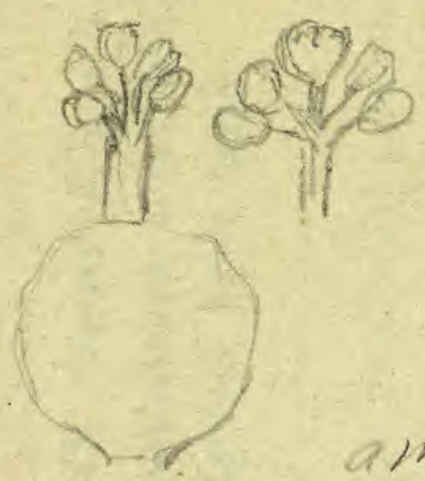
E. hispidus July 17 1882

Parry mss 1882

×4



1st verticil of 3 & pair of lowest keeled bracts

bract.

anther subsessile; verticils ± 3'

3–4 lowest ones small, sterile

perigon included corona filaments

exsert anthers usually 5, all long

stipitate; or 4 only, 2 being connate

scales connate at base

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Diet in Chronic Diarrhœa for a child two months old; purging not very severe.

The following Diet Table has been found beneficial by physicians specially interested in the diseases of children:

If the child **CAN BEAR MILK,** a teaspoonful of Mellin's Food for Infants, dissolved alternately (1) in a teacupful of equal parts of milk and barley water; and (2) in a teacupful of equal parts of weak veal broth and barley water.

When the child **CANNOT DIGEST MILK,** Mellin's Food *simply dissolved in hot water* has proved very useful in many cases; or,—

The following is a good diet:

First meal, 7 a. m.: One teaspoonful of Mellin's Food for Infants, dissolved in a teacupful of veal broth and barley-water, equal parts.

Second meal, 11 a. m.: One teaspoonful of cream in a teacupful of fresh whey.

Third meal, 2 p. m.: The unboiled yolk of one egg, beaten up with fifteen drops of brandy, a tablespoonful of cinnamon water, and a little white sugar.

Fourth meal, 5 p. m.: Four ounces of beef tea (a

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Thyrsus
7-12 verticils. st. sessile (orbicular uniform
smooth edged, contracted - a stipe
at axile smooth (yg) nearly enclosed

B - verticils 4-6 lowest remotes, sterile
all contracted at base
pairs or narrow ovate enclosed,
apex 5- shpitate.

persistent spring
leaves all - 3' diff, rigid, pointed
broad ovate triangular lanceolate
apex an linear subulate

13.449

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E. trifurca July 10 1892

Colombia dieck

Ypsuma Savy

×4

lower upper

×4

B Wisligens

Valvoyde

N Mex

very short

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Prescribed by

DR. GEO. ENGELMANN,

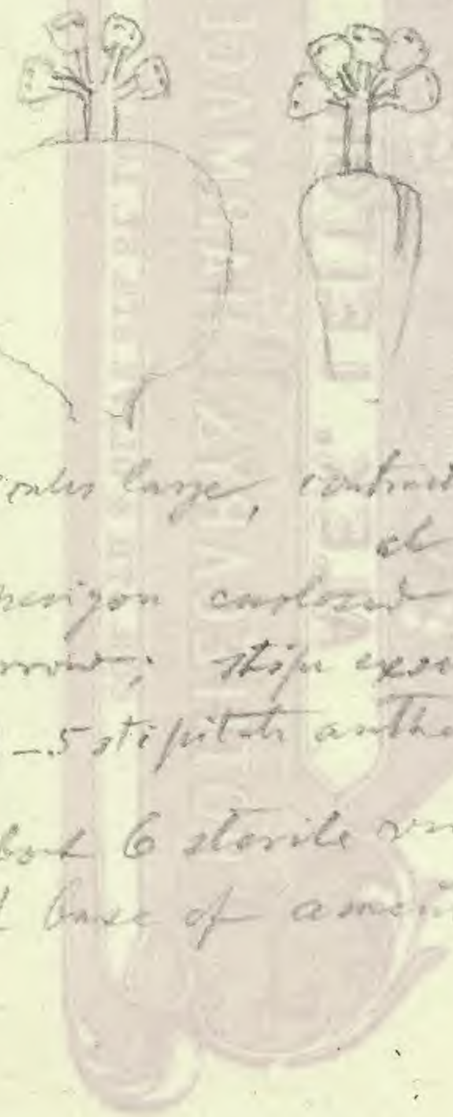
N. W. Cor. Garrison Ave. & Locust St.,

9 *Epidendrum triflorum* Dec 11 1882

Agua Caliente, S. California, Dec 11 1882 Parry

× 4

innermost scales
single flower
about ½ vertical of branch
flowering
from the lower scales are contracted at base into a stipe
Scales very thin, enveloping one another so that they can be separated only with difficulty


Scales large, contracted at base
perigon campanulate
nerves; stipe exserted
3—5 stipitate anthers
about 6 sterile verticils at base of ovary

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Cyclodium tryphorum Jenm
& Pasco

Penn 17 1892

2 scales

10–
about 12 vertically
of 3 scales = 30–36

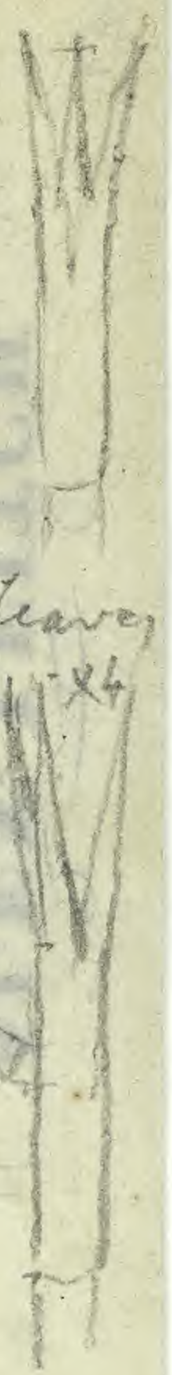
× 4

♂ globose, tuberculate at base
2 opposite Bracts, the abt 4
empty vertically then
(♀) about 5th fertile one

× 4

♂

× 10



leaves
× 4

melanosus
3 or 4 lower fertile
small sterile

♂ scales
Continued at base
sheath not or scarcely
apart; anthers 5, short stiped

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8 *Ephedra Torreyana* Dec 11 1882

Utah No 250 fr Parry 1874

×4

3 verticils of equal length

2–9 pairs of scales

one of the lower verticils

scales all and especially the innermost very thin, membranous, erose, denticulate, not rough at all on back

2 innermost verticils about equal

2 very rough flowers

anthers 5, all stipes, perigon narrow, enclosed

From Wright's no 1883 specimen El Paso?

= Gray

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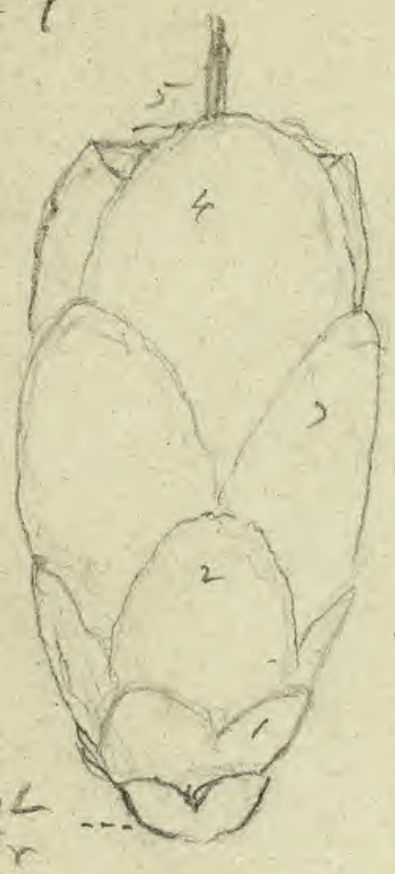
Ephedra Torreyana ?

Wright no 1883. N Mex. = Hb. Short

June 17. 1882

x 4



lowest pair
5 verticils of 3 scales

innermost scales not longer than those below them

single triangular ovule smooth

upper leaves

lower leaves

Is this Torreyana with stipules and smooth fruit ?

male also about
5 verticils of 3 scales
scales rounded
connate at base
sheath as long as scale
stipe exserted, with
4-5 stipitate anthers

head anthers short stipitate or subsessile

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18454

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decimal figures in the logarithms could give.

EPHEMERIDES OF VARIABLE STARS.

Boston Mean Time.

Short Period Variables.

Algol: minima.

		d.	h.	m.		d.	h.	m.
1880.	Oct.	4	14	0	Nov.	2	6	9
		7	10	49		13	17	25
		10	7	38		16	14	14
		24	15	42		19	11	3
		27	12	31		22	7	52
		30	9	20				

Lambda Tauri: minima.

		d.	h.	m.		d.	h.	m.
1880.	Sept.	24	15	58	Oct.	14	10	20
		28	14	51		18	9	12
	Oct.	2	13	44		22	8	4
		6	12	37		26	6	57
		10	11	28		30	5	49

S. Cancri: minima.

		d.	h.	m.
1880.	Oct.	1	14	26
		20	13	41
	Nov.	8	12	57

Telescopic Long Period Variables: max.

		Position 1855. A. R.			Decl.		Mag.
1880.—Oct.		h.	m.	s.	°	′	
19.	S Libræ	15	13	4	−19	51.7	8
22.	V Virginis	13	20	19	− 2	25.2	8-9
22.	T Aquarii	20	42	17	− 5	41	7
28.	R Capric.	20	3	10	−14	42	9
28.	V Coronæ	15	44	21	+40	0	8
Nov.							
7.	T Herculis	18	3	37	+31	0	8
7.	S Arietis	1	56	51	+11	49	9
9.	R Aquarii	23	36	19	−16	5	6-8
19.	T Cassiop.	0	15	25	+54	59	7.8
22.	S Urs. Maj.	12	37	35	+61	53	8
23.	R Ceti	2	18	38	− 0	50	9
27.	U Cancri	8	27	28	+19	23	8.9
28.	S Vulpec.	19	42	27	+26	56	9
Dec.							
6.	R Arietis	2	7	53	+24	23	8.9
7.	T Ophiuchi						
14.	R Leporis						
28.	R Lyncis	6	49	20	+55	32	7.8
31.	S Ceti	0	16	41	−10	7.9	7.8

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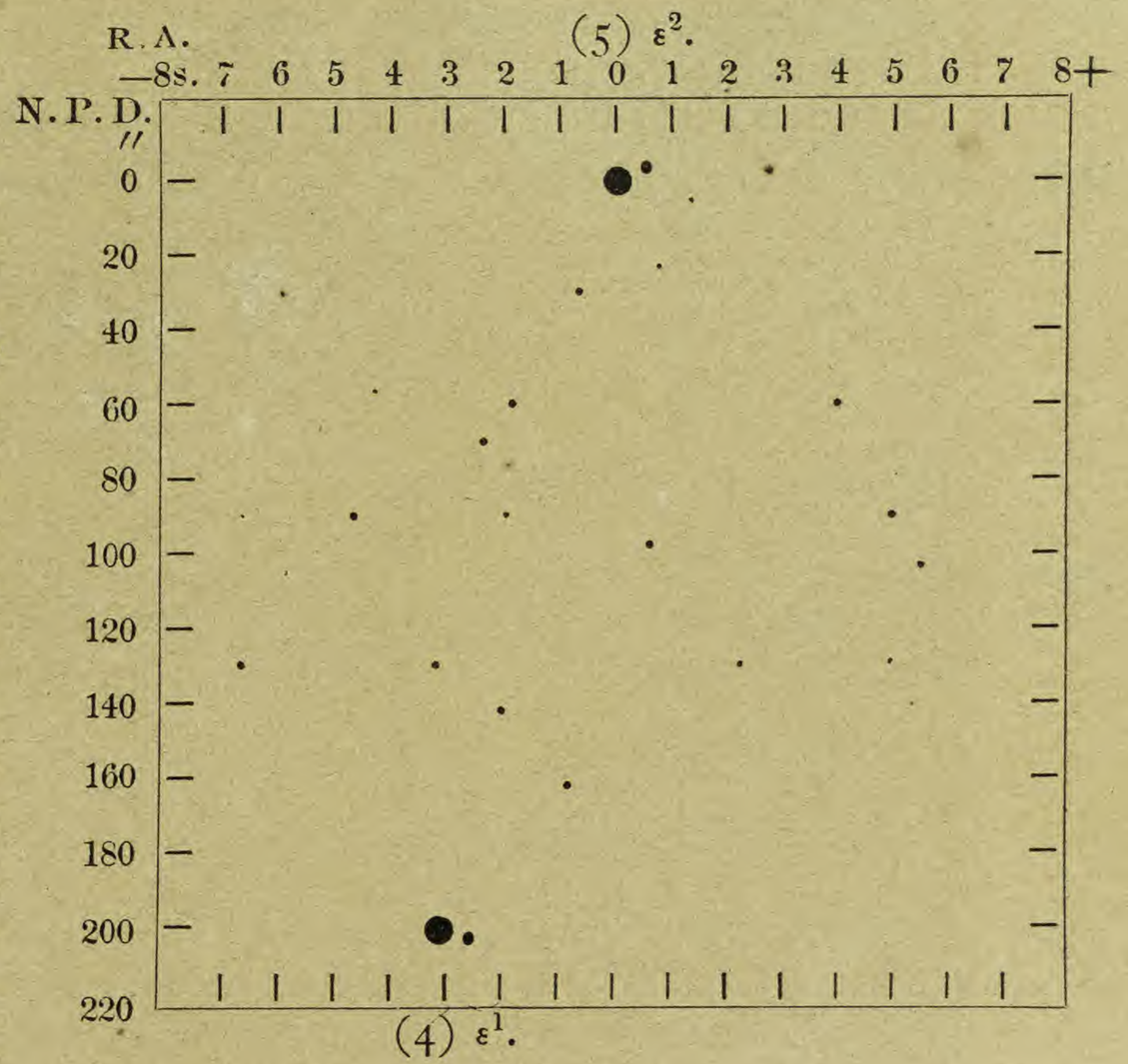
est to, and it the

In the *Observatory* for Sept., there is a short note from Mr. Henry Pratt, of Brighton, Eng., on the Epsilon Lyræ group, accompanied by a map of the small stars visible within a circle which just includes the components of Epsilon Lyræ, and a small star about 8s. in R.A. on their east. This map, which was carefully made by Mr. Pratt, mostly by micrometrical measurement, is the result of observations with a reflector, power of 220, in May, 1876. As it may be of interest to the readers of the SCIENCE OBSERVER, it has been reproduced as accurately as is possible, and is here inserted. [ED.



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0 1 2 3 4 5 6 7 8 9 10 cm

Ephedra fragilis June 28 1882

Murcia, Spain (Griesbach 3),

×4

C. fragilis

Sierra (Griesbach

male ament branching

5–6 anthers sessile ÷ 1 head, scarcely exsert perigon long exsert

simple nuts

aments erect

fascicled

Steudel

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"Ephedra altissima", Teneriffe

St Louis June 28 1882

soaked (changed

by soaking?

one or two nuts

and not always

a single ones a

rudiment of 2nd

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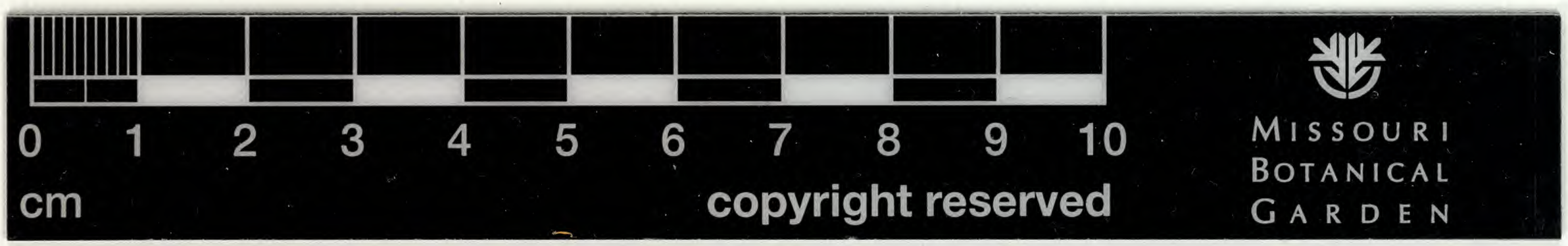

"Ephedra altissima"
Orto dei Semplici, Florence June 28 1882
16 Oct. 1862

E campylopoda HB Genera ii the same

x4

x4

inner scales bearing female flowers unlobed 2/3

x2

autumnal aments polygamous ? both = Flowers of Genus

lowest very small pair of scales sterile next 3 pairs bearing male flowers, each, in axil pair with 2 female flowers

perigon long exsert, stipe of anthers long exsert; anthers abt 6 sessile, glomerate

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S. stapfii Vor

Ephedra alte Diana Desf.

H.B. Jesuens. on
dr visam
Oct 1st 1868

x 4 fruit

not quite ripe

x 4

Hort Dam: Hoff is the same

leaves on vigorous
Summer shoot
= H.B. Jesuens
= 2' & 3rd year shoot

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viation.

ontenant des Livres,

ann, M. D.

Sylius & Comp.

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Hilom

Genes

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Cyrtodeira campylopoda = *fragilis* Benth

H. B. Gen. vol

Genoa 10 Oct 06 1868

× 4

red and fleshy

1 pair of leaves enlarged

1, or 2 pairs under it

Sect. abortiva

white albumen

yellowish embryo

× 4

pulpy when ripe

always 2 seeds, often one abortive

seeds enclosed in thickening fruit

after removal of outer brown coat

seed

2 embryos in one seed

13460

ration.

tenant Dès livres, valeur

ann, M.D.

lius & Comp.

~~Milan~~
Genes

J. Engelmann.

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